

CLAIMS

We claim:

1. A wireless sensor probe comprising:
a probe body including a void configured to house a sensor mast, the probe body to be inserted partially into the ground;
the sensor mast including one or more sensor devices for sensing a soil property surrounding the probe body when the probe body is inserted partially into the ground; and
a probe top part for encapsulating the probe body and the sensor mast,
wherein the sensor mast is inserted into the probe body to form the sensor probe.
2. The wireless sensor probe of claim 1, wherein the probe body further includes a gasket formed on the outside perimeter of the probe body for securing the probe body in the ground when the probe body is inserted into the ground.
3. The wireless sensor probe of claim 2, wherein the gasket comprises a ring.
4. The wireless sensor probe of claim 2, wherein the gasket comprises an angular structure surrounding the outside perimeter of the probe body, the angular structure having a top portion facing the top of the probe body, a bottom portion facing the bottom of the probe body and a side portion having tapered width where the width decreases from the top portion to the bottom portion.

5. The wireless sensor probe of claim 1, wherein the sensor mast further comprises a gasket on the outside perimeter of the sensor mast for anchoring the sensor mast to the inner perimeter of the probe body and for sealing the space between the sensor mast and the inner perimeter of the probe body.

6. The wireless sensor probe of claim 1, further comprising:

a collar situated near a top portion of the probe body, the collar being used to anchor the probe body to the top of the ground when the probe body is inserted into the ground.

7. The wireless sensor probe of claim 1, wherein the sensor mast further comprises a battery slot and a PC board for accommodating a processor.

8. The wireless sensor probe of claim 1, wherein the probe top part comprises a transceiver circuit.

9. The wireless sensor probe of claim 1, wherein the probe top part comprises a battery slot and a PC board for accommodating a transceiver circuit and a processor.

10. The wireless sensor probe of claim 1, wherein the probe top part comprises a solar cell panel.

11. The wireless sensor probe of claim 1, wherein the probe top part comprises an opening for housing a data display.

12. The wireless sensor probe of claim 11, wherein the data display comprises one of an LED display or an LCD display.

13. The wireless sensor probe of claim 1, wherein the probe body is configured in a round shape, a hexagon shape, a rectangular shape, a triangular shape, or a cross-beam shape.

14. The wireless sensor probe of claim 1, wherein the probe body further comprises one or more raised structures protruding out of the probe body for housing the sensor device.

15. A wireless sensor probe comprising:

- a housing containing one or more sensor devices, the housing to be inserted partially into the ground for sensing a soil property surrounding the housing; and

- a collar situated near a top portion of the housing, the collar being used to anchor the housing to the top of the ground when the housing is inserted into the ground.

16. A wireless sensor probe comprising:

- a housing containing one or more sensor devices, the housing to be inserted partially into the ground for sensing a soil property surrounding the housing; and

- a gasket formed on the outside perimeter of the housing for securing the housing in the ground when the housing is inserted into the ground.

17. The wireless sensor probe of claim 15, wherein the gasket comprises an angular structure surrounding the outside perimeter of the housing, the angular structure having a top portion facing the top of the housing, a bottom portion facing the bottom of the housing and a side portion having tapered width where the width decreases from the top portion to the bottom portion.

18. The wireless sensor probe of claim 15, wherein the housing further comprises a battery slot and a PC board for accommodating a processor.

19. The wireless sensor probe of claim 15, wherein the housing comprises a top portion for housing a transceiver circuit, the top portion remaining above the ground when the housing is inserted into the ground.

20. The wireless sensor probe of claim 15, wherein the housing comprises a top portion for housing a solar cell panel.

21. The wireless sensor probe of claim 15, wherein the housing is configured in a round shape, a hexagon shape, a rectangular shape, a triangular shape, or a cross-beam shape.

22. The wireless sensor probe of claim 15, wherein the housing further comprises one or more raised structures protruding out of the housing for containing the sensor device.